

# Emma Strauss Kranich

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## EDUCATION

**Cornell University College of Engineering**, Ithaca, NY

*Expected 2022*

**GPA: 4.1** (out of 4.3), *Candidate for Bachelor of Science in Electrical and Computer Engineering*

**Honors:** Dean's List

**Bethlehem Central High School**, Delmar, NY

*Graduated June 2018*

**GPA: 97** (unweighted), **SAT: 1580**, **ACT: 35**

**Honors:** Art Honor Society, Math Honor Society, National Honor Society

**Awards:** National Merit Finalist, University of Rochester Bausch + Lomb Award, New York State Scholarship for Academic Excellence

## RESEARCH EXPERIENCE

**Research Assistant - Erickson Lab, Cornell University**

*January 2019 - Present*

- Design and create new medical devices integrating H.E.R.M.E.S device for blood-plasma separation at the point-of-need
- Develop ways to utilize PCR without the need to separate further particles out of erythrocyte depleted blood
- Collaborate with Ph.D. student on creating point-of-need sepsis diagnostic and gonorrhea antibiotic resistivity testing devices

**Product Developer - International Genetically Engineered Machine (iGEM) Team, Cornell University** *October 2018 - Present*

- Built boat with automatic sampler to test for toxins in water as well as bioreactor to remove toxins if found (2019 project)
- Design and manufacture products throughout school year and summer to solve problems related to medicine, the environment, or human and animal health, compete annually at iGEM Giant Jamboree in Boston with award-winning research team

**Neuroscience Intern - Neural Stem Cell Institute, Rensselaer, NY**

*Summer 2017*

- Assisted lab staff in developing regenerative stem cell therapies for diseases of the central nervous system
- Improved experience with lab techniques such as staining, microscopy, gel electrophoresis, feeding cells, and cleaning cells

**Research Assistant - Muhlenberg Brain Camp, Muhlenberg College, PA**

*Summer 2017*

- Selected for free week-long program, conducted research with a professor on memory consolidation and PTSD
- Utilized virtual reality to study working memory consolidation, demonstrated that memories can be hidden from retrieval without being erased by using a visuospatial distractor during the consolidation phase
- Research picked up by Muhlenberg students to test on larger scale after preparing poster presentation and speaking at symposium

## WORK/VOLUNTEER EXPERIENCE

**Fibrodysplasia Ossificans Progressiva (FOP) Charity Events**

*2015 - 2017*

- Orchestrated logistics for two charity events (2015 Awake for a Cure and 2017 Cheers for a Cure) for FOP research
- Raised \$76,000 for international FOP research center at the University of Pennsylvania

**Mathematics and Science Tutor**

*2014 - 2018*

- Helped younger students review class material and complete problem sets, created worksheets and practice tests

## EXTRACURRICULAR ACTIVITIES

**Theta Tau Professional Engineering Fraternity**

*January 2019 - Present*

*Intramural Chair and Pi Class Philanthropy Chair*

- Underwent eight-week new member education training that focused on professional development and leadership skills
- Organize philanthropy events for fraternity to participate in, engage with peers through workshops such as resume critiques
- Lead fraternity intramural sports teams each semester, spearhead philanthropy events for Pi Class (2019 Pi's Pies)

**Hillel**

*September 2018 - Present*

*Engagement Committee Member*

- Supervise social events for Jewish students that facilitates relationships between Jewish peers
- Participate in weekly events including Shabbat dinners, coffee tabs, and holiday celebrations

**Society of Women Engineers (SWE)**

*September 2018 - Present*

*General Publicity Committee Member*

- Campaign about SWE events on campus such as networking dinners with a long-term goal of achieving equality in STEM
- Meet to discuss opportunities for professional development as well as foster relationships between fellow students

**Music**

- **Tenor Saxophone** – Bethlehem Central High School Wind Ensemble (1<sup>st</sup> chair), Bethlehem Jazz Band (1<sup>st</sup> chair) *2010 - 2018*
- **Piano** – Level 6 NYSSMA participant (Received score of 94 on most recent – 2017) *2008 - 2018*

**Sports**

*2012 - Present*

- **Soccer** – Cornell Intramural Soccer, Bethlehem Central High School (JV and Freshman Captain)
- **Track and Field** – Bethlehem Central High School, ran mid-distance events including the 800m and 1500m *2014 - 2018*

## SKILLS AND INTERESTS

**Technical Skills:** Autodesk Fusion 360, Java (2 years), Python (1 year), MATLAB (1 semester), HTML & CSS (basic), PCR

**Personal Projects:** Developed personal website, Created test tube racks that continually record temperature data of tubes

**Interests:** Poetry, Hiking, Piano, Running, Painting, Skiing, Baking, Traveling, Sudoku, Crime Shows, Human Brains, Puns